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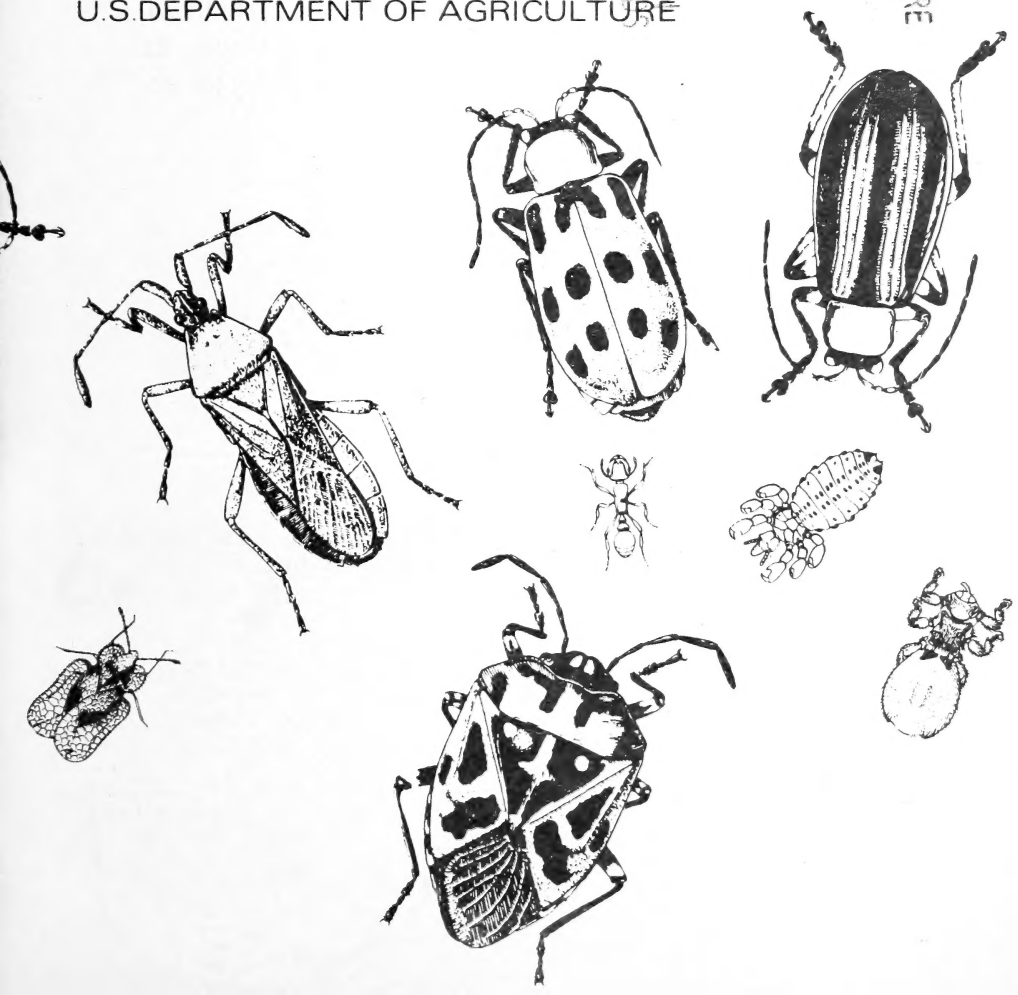
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Cooperative Economic Insect Report

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ANIMAL AND PLANT HEALTH INSPECTION SERVICE
PLANT PROTECTION AND QUARANTINE PROGRAMS
NEW PEST DETECTION AND SURVEY STAFF

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearinghouse and does not assume responsibility for accuracy of the material.

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COOPERATIVE ECONOMIC INSECT REPORT**HIGHLIGHTS**Current Conditions

ARMYWORM increased in small grains on Maryland Eastern Shore, widespread on small grains and pastures in North Carolina, of some concern in Oklahoma and other areas. ASTER LEAFHOPPER and POTATO LEAFHOPPER migrants reported in Michigan, Wisconsin, and Minnesota. (pp. 335-337).

EUROPEAN CORN BORER overwintered larval population lightest ever recorded in Iowa, moths reported in Illinois, Ohio, and Delaware. (p. 437).

ALFALFA WEEVIL continued problem in some areas, damage decreased in other areas. (pp. 439-441).

Live BOLL WEEVIL counts continued heavier on young cotton than in recent years in Alabama, conditions ideal for emergence in Tennessee. (p. 441).

COLORADO POTATO BEETLE expected to be heavy again in Maryland. (p. 443).

SPRUCE BUDWORM lighter than winter counts indicated in Maine; probably heavier than previously encountered in Ohio. (p. 446).

FACE FLY expected to be above normal in central Maryland this season, currently heavier in Tennessee than at this time in 1974. (p. 447).

Detection

New State records include ODD BEETLE in Oklahoma (p. 448) and a LEAFMINER FLY in Pennsylvania (p. 446).

For new county and island records see page 444.

Special Reports

A New Genus of Tenuipalpidae (Acarina) from India. (pp. 453-455).

Grasshopper Adult Survey Fall 1974. (Centerfold).

Reports in this issue are for week ending May 23 unless otherwise indicated.

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Grasshopper Adult Survey Fall 1974. (Centerfold).

WEATHER OF THE WEEK ENDING MAY 26

Reprinted from Weekly Weather and Crop Bulletin supplied by National Weather Service, NOAA.

HIGHLIGHTS: Heavy snow fell in the central Rocky Mountains as unseasonable cold air flowed southward. In contrast, warm humid air moved northward from the Gulf of Mexico triggering severe weather from Texas to the northern Plains and to the Middle Atlantic States. The Midsouth and Southeast got a welcome respite from the heavy rain that has flooded them in recent weeks.

PRECIPITATION: The week was ushered in early Monday with a thunderstorm hitting Lubbock, Texas. Winds of 70 m.p.h. were recorded. Thunderstorm activity was scattered over the upper Mississippi Valley and west Texas. Hail and tornado activity was reported over these areas. Elsewhere, cold rain and snow fell in the West and in the middle and northern Rockies extending eastward to North Dakota. The contrast continued on Tuesday with snow drifts in Utah and tornadoes in the central part of the Nation. Snow and cold rain fell in the Rocky Mountains as the winterlike storm held. Strong gusty winds and blowing dust occurred in southern California and across Arizona. In the warm humid air flowing north from the gulf, thunderstorm activity was rekindled early in the day from north-central Texas to the upper Mississippi Valley and eastward through Michigan and into Pennsylvania. The activity developed into severe weather by the end of the day. Twenty-one tornadoes were reported in Texas, Arkansas, Iowa, Illinois, Minnesota, and Michigan. On Wednesday, snow--locally heavy--with cold wind provoked forecasts of more of the same in the western mountain areas. Lander, Wyoming, had accumulated 18 inches of snow on the ground in spite of some melting. Showers dotted the Rocky Mountains and rain fell along the north Pacific coast. Rain and showers triggered by the storm centered in Colorado spread into

Weather of the week continued on page 456.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMYWORM (*Pseudaletia unipuncta*) - MARYLAND - Larvae increased in all areas of Eastern Shore. Heaviest counts ranged 10-19 second and third-instar larvae per row foot of barley and 3-6 per row foot in wheat. Outbreak expected next 14 days. Situation in central area still uncertain, development usually 7-10 days slower than Eastern Shore. (U. Md., Ent. Dept.). VIRGINIA - Larval damage to grain begun in eastern Henrico County. More than 500 acres sprayed to date. In Southampton County larvae feeding in whorls of corn. (Allen). NORTH CAROLINA - Widespread population "explosion" in wheat, sorghum, corn, and pastures in Stanly, Union, Anson, Pitt, Halifax, Tyrrell, Chowan, and Pamlico Counties. Larvae averaged 8 per square foot in Halifax County in small grain and estimated 20 per square foot in Tidewater area. Migrated to corn in Chowan County. Some larvae beginning to pupate. New larvae expected in 21 days under optimum conditions. (Peedin et al.).

SOUTH CAROLINA - Armyworm infestations in small grains, corn, and pastures continued over most of State. Larvae collected on wheat in Dillon County May 14, 1975, by C.C. Adams, and on Coastal Bermuda grass in Aiken County May 12, 1975, by J.H. Evans. Determined by R.P. Griffin. These are new county records. (McCaskill). ALABAMA - Larvae in small grains throughout Cherokee County. Damaged about 33 percent of heads in large wheatfield, controls applied. Small larvae ranged 2-6 per stalk on 2-10 percent of 18-inch tall plants in 100-acre cornfield in Limestone County. (Hall et al.).

TENNESSEE - Armyworm infested wheat in Lake County week ending May 16; at treatment levels, treatments applied. Currently, light on Coffee County wheat. Surveys of grain in Weakley, Henry, Stewart, and Montgomery Counties indicated only occasional and spot infestations. At treatment levels in Lawrence County on grains and corn. Treatments applied. *P. unipuncta* infesting wheatfields in Franklin County, but not at control level. (Cagle et al.). KENTUCKY - Larvae averaged 8 per 100 sweeps in wheat at one Morgan County location. (Barnett).

INDIANA - *P. unipuncta* larvae ranged 2-3 per 100 sweeps in grassy alfalfa in Warrick and Dubois Counties May 13. Populations trace in south-central and central districts. Larvae observed in wheat in Posey County; noneconomic in grassy alfalfa in southwest and south-central districts. (Chandler, Meyer). ILLINOIS - Usually light to moderate in all wheat surveyed. Economic, 6 larvae per row foot in only 2 fields in Gallatin and Massac Counties. Averaged 4 per foot in one Union County field. Although noneconomic in most fields, some concern that "hot spots" may develop next period in areas with moderate young larval populations. Light in barley, grass and red clover pasture, and no-till corn. (Ill. Ins. Rpt.).

MISSOURI - Armyworm moderate to heavy in minimum tilled corn in central and northern areas. Larvae ranged 1-5 per plant on 10-30 percent of plants. Light to moderate in isolated small grain fields throughout southern and central areas. Larvae ranged 0.5-16 per square foot. Light in fescue in central area; ranged

1-5 per square foot. (Munson). KANSAS - Armyworm moving into corn in Montgomery and Atchison Counties and into sorghum in Anderson County. Only one significant infestation reported in wheat in southeast district. Light on wheat in Sedgwick, Sumner, Harper, Harvey, Saline, Dickinson, Riley, and Pottawatomine Counties. Larvae ranged from newly hatched to two-thirds grown. (Bell). ARKANSAS - Some scattered reports of continued activity in northeast area; infestations over in most areas of State. Small grains ripening in most areas, no more problems expected this season. Infestations much lighter in northwest area than in other areas of State. As far as known, no fields treated in this area. (Boyer).

OKLAHOMA - Scattered, heavy larval armyworm infestations (second to fifth instar) present in Alfalfa County wheat. Ranged up to 28 per square foot in favorable areas of some fields. Lighter (0-7 per square foot) in Woods and Major Counties. Scattered heavy infestations noted in Kay and Grant Counties, ranged 12-15 per square foot in favorable areas of some fields. Ranged 0-8 and 0-2 per square foot in Garfield and Noble Counties, respectively. Head damage very light but should increase as larvae grow. Very light in Washington County; ranged 2-60 per square foot in most west-central counties with much damage noted. Ranged 0-1 per square foot in Roger Mills County. Parasitism by Apanteles sp. (a braconid wasp) heavy in many west-central, southwest, and south-central counties. P. unipuncta larvae ranged 0-5 per square foot in Grady County, 0-15 in Canadian and Kingfisher Counties. Larvae ranged 0-10 per linear foot in Cotton County, 3-5 in some Comanche County fields. Ranged 0-8 per square foot in most fields in Stephens and Jefferson Counties, heavier in isolated spots. Many larvae about full grown in southwest and south-central counties; pupation underway. (Okla. Coop. Sur.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - MICHIGAN - Lettuce, celery, carrot, and onion growers advised to check fields immediately. Pest brought in by several storm fronts passing through State. (Liebherr). WISCONSIN - Migrating adults increased significantly on gusting southerly winds. Ranged 0.5-1 per sweep in winter grain throughout most of State, lighter in spring grain. Adults averaged less than 15 per 100 sweeps in south-eastern district. Growers advised to begin rigid treatment program until migration decreases, which may not occur until overwintering eggs hatch. No nymphs detected statewide; with present temperatures, rapid development should occur after hatch week of May 30. (Wis. Ins. Sur.). MINNESOTA - Most south-central and central district grain fields too short to sweep. However, several winter ryefields 9-12 inches tall had fairly heavy populations. One field had average of 700 and one 1,150 per 100 sweeps; overall average 100 per 100 sweeps. This pest vector of aster yellows and purple-top wilt which cause yellowing, curling, stunting, and proliferation of top growth in carrots, lettuce, petunias, marigolds, and other hosts. (Minn. Pest Rpt.).

BEEF LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Total of 59,658 acres sprayed in Kern, Kings, Fresno, and Merced Counties. Cold weather past 2 months in Imperial Valley, Imperial County, retarded growth of most cantaloupe and tomato plants. Tomatoes showed less than one percent curly-top virus. Cold, windy weather retarded germination of sugar beets in Antelope Valley, Los Angeles County; some fields replanted. Leafhopper adults averaged

less than one per 100 sweeps of beets and 2 per 50 sweeps of spring and summer hosts. (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - NEW MEXICO - Light, ranged up to 30 per leaf on some winter wheat in Dona Ana County. Some concern noted. (N.M. Coop. Rpt.). TEXAS - Light to moderate in Blackland area sorghum. Light to moderate in Taylor and Runnels Counties; remained light in Hill and Ellis County area. Beneficial species very heavy. (Hoelscher et al.).

GREENBUG (Schizaphis graminum) - KANSAS - Trace numbers, mostly alates, on seedling sorghum in Pottawatomie, Douglas, and Shawnee Counties. Light on wheat in Sedgwick, Dickinson, and Riley Counties. (Bell).

POTATO LEAFHOPPER (Empoasca fabae) - MINNESOTA - Strong sustained south winds brought in first spring migrants. Infestations detected in 57 percent of alfalfa fields surveyed in south-central and east-central districts; ranged 0-100 (average 15) per 100 sweeps. (Minn. Pest Rpt.). WISCONSIN - Migrants relatively heavy. Populations of 50 per 50 sweeps noted in some Grant County alfalfa. Populations lighter in northern counties. Ranged 10-20 per 50 sweeps in Trempealeau and Waushara Counties. No specimens collected in Langlade, Shawano, or Price Counties. (Wis. Ins. Sur.). MICHIGAN - Growers advised to check vegetable fields. Pest migrates in on storm fronts and can severely reduce yields if not controlled on young plants. (Leibherr). ILLINOIS - Averaged 12 (range 0-95) per 100 sweeps in Ogle County alfalfa fields. (Ill. Ins. Rpt.). PENNSYLVANIA - Adults averaged 2 in 10 sweeps of alfalfa in Clarion County. (Smith).

SPOTTED ALFALFA APHID (Therioaphis maculata) - WISCONSIN - Large nymphs found in alfalfa in sandy areas in La Crosse, Trempealeau, Buffalo, Marquette, Waushara, and Portage Counties. (Wis. Ins. Sur.).

TOBACCO BUDWORM (Heliothis virescens) - NORTH CAROLINA - Infestations above threshold levels in 25 of 50 tobacco fields in Columbus, Brunswick, and Bladen Counties. (Hunt).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - IOWA - Annual overwintering larval survey conducted in 32 Boone County fields. Larvae averaged 62 per acre, lightest population ever recorded in State. Potential for damaging first-generation slight. (DeWitt). WISCONSIN - Dissections of cornstalks near Arena, Iowa County, showed 50 percent pupation of overwintering borers. No pupae noted in limited dissections near Hancock, Waushara County. (Wis. Ins. Sur.). ILLINOIS - Emergence in corn well underway in southern third of State. One gravid female found flying. Pupation averaged 27 percent in Ogle County with no emergence. (Ill. Ins. Rpt.). OHIO - First moth of season in Wayne County blacklight trap on May 22. (Rings). DELAWARE - Pupation of overwintering larvae in Sussex County averaged 88 percent with about 28 percent of adults emerged. Egg masses present on early planted corn and potatoes. Adults averaged 5 per night in Sussex County blacklight trap collections. (Burbutis).

BLACK CUTWORM (Agrotis ipsilon) - KANSAS - Some stand damage to seedling corn and sorghum in Jackson, Riley, and Douglas Counties. (Bell).

VARIEGATED CUTWORM (Peridroma saucia) - ILLINOIS - Larvae ranged 1-20 per square foot in two no-till cornfields in Monroe County. Corn in spike stage, having just recently emerged, much damage expected. (Ill. Ins. Rpt.).

CORN FLEA BEETLE (Chaetocnema pulicaria) - KANSAS - Averaged 2 per plant on seedling corn in Harvey County. Trace on seedling corn in Brown and Doniphan Counties. (Bell). NEW YORK - Adults observed feeding on seedling corn in Columbia and Rensselaer Counties May 14. Infestation light. (E. Pillemer).

WESTERN CORN ROOTWORM (Diabrotica virgifera) - OKLAHOMA - Several adults taken from corn at Ahlsoo, Pontotoc County, September 11, 1974, and one adult taken from Haplopappus ciliatus (a weed) 5 miles north of Guthrie, Logan County, August 15, 1974, by D.C. Arnold. Determined by R. White. These are new county records. (Okla. Coop. Sur.).

SUGARCANE BEETLE (Euetheola rugiceps) - ALABAMA - Adults destroyed 75 percent of 5 acres of corn following Coastal Bermuda grass in Bibb County. Destroyed 10 percent of corn in 140-acre field in St. Clair County. (Owens et al.).

A WEEVIL (Sphenophorus callosus) - NORTH CAROLINA - Extensive damage continued, particularly in late-planted corn. Replanting necessary in counties scattered over Coastal Plain. (Van Dуйn et al.).

SORGHUM MIDGE (Contarinia sorghicola) - TEXAS - Midge activity light in sorghum in lower Rio Grande Valley. Midges averaged 3 per head in Zavala and Real Counties. Activity ranged very light to very heavy in Medina, Uvalde, and Atacosa Counties. (Deer et al.).

SMALL GRAINS

RICE WATER WEEVIL (Lissorhoptrus oryzophilus) - ARKANSAS - Ten rice fields surveyed in Arkansas and Jefferson Counties. Percent of leaves with feeding scars ranged 10-86, averaged 45. Only two fields noted with 75 percent feeding signs (current recommended treatment level). Both fields flooded 5 days or more. Limited experience shows feeding signs often reach peak 5-6 days after flooding. (Boyer).

PALE WESTERN CUTWORM (Agrotis orthogonia) - SOUTH DAKOTA - Heavy localized infestations week ending May 16 severely damaged winter wheat in Okaton area in western Jones County and east of Buffalo Gap, Fall River County. Infestations heavier in wheat planted in same fields where grown in 1974. Very few larvae found in land in fallow in 1974. A. orthogonia and Pseudaletia unipuncta (armyworm) present but most larvae A. orthogonia. Many larvae small and will continue feeding for at least 14 days. (Kantack).

ENGLISH GRAIN APHID (Microsiphum avenae) - MISSISSIPPI - Nymphs and adults averaged 10 per head on 2-inch (average) heads of 150 acres of wheat in Oktibbeha County. (Robinson).

WHEAT STEM MAGGOT (Meromyza americana) - OKLAHOMA - Damage moderate in scattered Canadian County wheatfields. Occasional "whitehead" noted in scattered fields in Kay, Garfield, Alfalfa, Woods, and Major Counties. (Okla. Coop. Sur.).

TURF, PASTURES, RANGELAND

BRONZED CUTWORM (Nephelodes minians) - Very destructive in half-section area of Ft. Collins, Larimer County. Some lawns completely destroyed. Larvae averaged 6+ per square yard. (Hantsbarger).

TWOLINED SPITTLEBUG (Prosapia bicincta) - ALABAMA - Damaged lawns and commercial grasses in Mobile County. Nymphs and adults heavy in 15-acre planting of centipede grass, treatment made. (Kilpatrick, Walker).

A GRASS BUG (Labops hesperius) - UTAH - Nymphs, mainly fourth and fifth instars, conspicuously damaged crested wheatgrass at Diamond Fork of Spanish Fork Canyon, Utah County, May 17 and 18. (Bowers, Haws).

BROWN WHEAT MITE (Petrobia latens) - IDAHO - Ranged 10-100 per leaf on orchard grass pasture north of Paul, Minidoka County. (Gage).

FORAGE LEGUMES

ALFALFA WEEVIL (Hypera postica) - WASHINGTON - Adults averaged less than 0.5 per sweep and larvae ranged 0-2 per sweep in seed alfalfa in Walla Walla County week ending May 16. (Madsen et al.). NEVADA - First and second-instar larvae averaged 8 per sweep on alfalfa at Hiko, Lincoln County. (Zoller). NEW MEXICO - Larvae 70-400, adults 2-4 per 25 sweeps in alfalfa near Los Lunas, Valencia County. Damage evident. Larvae taken from alfalfa near Artesia, Eddy County, May 2, 1975, by L. Mathews. Additional larvae and adults collected in area May 6 by W.A. Iselin. Determined by W.A. Iselin. Specimens taken at Portales, Roosevelt County, May 16. Collected and determined by L. Mathews. These are new county records. (N.M. Coop. Rpt.). TEXAS - Heavy in Nolan County alfalfa, controls applied. Declined in Hale County area. (McWhorter, Latham).

OKLAHOMA - Alfalfa weevil still moderate to heavy in Garvin County alfalfa. Light in Muskogee County. (Okla. Coop. Sur.). KANSAS - Most alfalfa cut in southeast district; cutting underway in most other districts. Many fields in southeast and south-central districts do not need stubble treatment as in 1974. Hatching ceased in some east-central district fields; larval numbers decreasing; also decreasing in northeast district. Hatching still underway and larval populations increasing slowly in northwest district; alfalfa growing rapidly, most fields not expected to require treatment. (Bell). NEBRASKA - Continued to increase in most areas. Pupae appearing in alfalfa in southeast and central districts. (Keith).

SOUTH DAKOTA - Preliminary survey for alfalfa weevil conducted May 19 and 20 in southeast area alfalfa. Larvae found in 35 of 36 fields examined. Heaviest counts per 100 sweeps found by county: Sanborn 128, Bon Homme 62, Yankton 38, Lincoln 20. Development ranged first to third instar. Hypera postica apparently well established in southeast area. Terminal injury averaged 25 percent in one Sanborn County field. Possibility exists for damage in isolated fields in eastern part of State this season. If pest continues to increase as it has since first found in eastern part of State in 1972 problems may develop by 1976. (Walgenbach). MINNESOTA - First larvae of season found in Winona County in southeast district. Second-instar larvae averaged 4 per 100 sweeps, but in one field only. Adults active, but light. In 11 percent of 74 fields surveyed in southeast district, weevils averaged 2 per 100 sweeps. Alfalfa growth responded well to unseasonably warm weather of past 6-7 days. (Minn. Pest Rpt.).

WISCONSIN - Alfalfa weevil larvae from overwintering eggs still very scarce, averaged no more than 8 per 50 sweeps in any field checked. Overwintering egg survival 1.4 percent, lightest in recent years. Feeding damage visible but insignificant. Adults very active at night and fairly active during day under lush growing alfalfa. Adults averaged less than 5 per 50 sweeps. Under present weather conditions, populations can peak within next 14 days. No significant damage to first-growth alfalfa expected if harvested at proper early stage. Spring-laid egg hatch began about May 20. (Wis. Ins. Sur.). IOWA - Larval damage on alfalfa increased in southern counties, pupae present in Fremont County. Larvae increased from 2.8 to 4.2 per stem in Decatur County field. Chemical treatments on early cuttings underway. Larvae averaged as follows per sweep by county: Taylor 9, Page 39, Adams 4, Union 20. Feeding damage on 12 to 15-inch tall alfalfa more apparent in more northern counties in southern half of State. (DeWitt).

MISSOURI - Alfalfa weevil larval populations from 3 locations in northwest and north-central areas averaged 0.4, 1.3, and 1.4 per plant. (Munson). ILLINOIS - Larvae averaged 19 per 100 sweeps (range 0-122) in 16 alfalfa fields in and around Ogle County. (Ill. Ins. Rpt.). INDIANA - Larvae caused economic damage to alfalfa in Warren and Vermillion Counties, first of season north of Indianapolis. Treatment recommended in all northern districts. Alfalfa in southern districts being harvested. (Meyer). OHIO - Larvae moderate to heavy in 5 southwestern counties. Larval averages ranged 65-1,336 per 100 sweeps and 0.3-2.5 per stem. Damaged 14-80 percent of alfalfa tips. Fourth instars present. (Lewis). WEST VIRGINIA - Alfalfa tip infestation averaged 50 percent with about 10 percent foliage damage in Preston County alfalfa. Larvae noted at 145 and adults 7 per 25 sweeps in 28-inch tall alfalfa with 60 percent foliage damage in Jackson County. (Weaver, Hacker).

VIRGINIA - Alfalfa weevil infested 93.7 percent of tips in 6 alfalfa fields sampled (51.9 acres). Average estimated defoliation 39 percent. All six fields exceeded economic threshold of infestation; 100 percent of acreage exceeded economic threshold this period. (Allen). MARYLAND - Populations well above normal for State. Heavy in areas previously free of economic damage.

Infested alfalfa tips ranged 50-80 percent in heaviest infested fields in Kent, Prince Georges, and St. Marys Counties. Many growers cutting early to avoid excessive losses. About 1,200 acres treated. (U. Md., Ent. Dept.). NEW YORK - Alfalfa weevil adults averaged 8 and larvae 4 per 10 sweeps of 12 to 18-inch tall alfalfa in Columbia County May 15. (Piester).

ALFALFA SNOUT BEETLE (Otiorynchus ligustici) - NEW YORK - Adult activity increased for 21 days prior to May 15. Adults on 7-year-old Wayne County alfalfa planting reached about one per square foot. General adult activity light except for isolated "hot spots" where old infested alfalfa fields previously plowed under. (Willson).

PEA APHID (Acyrtosiphon pisum) - NEW MEXICO - Ranged 40-50 per 25 sweeps in Roosevelt County. First alfalfa cutting generally completed and conditions somewhat stabilized in southern counties. (N.M. Coop. Rpt.). OKLAHOMA - Ranged 20-25 per square foot in Roger Mills County alfalfa. (Okla. Coop. Sur.). OHIO - Light on alfalfa in southwestern counties. Counts per 100 sweeps by county: Clinton 20, Brown 8, and Adams 10. (Lewis). WISCONSIN - Populations extremely light, less than 15 per 50 sweeps noted in all but exceptional fields. Ranged 1-2 per 50 sweeps, no detectable infestations noted in many fields. Parasitism still heavy. (Wis. Ins. Sur.).

AN APHID (Acyrtosiphon sp., loti group) - NEVADA - This pest and A. pisum (pea aphid) noted on experimental alfalfa plots at Sparks, Washoe County. A. sp., loti group, comprised 97 percent and A. pisum 3 percent at Sparks and 91 and 9 percent, respectively, at Reno. Only occasional A. pisum specimens noted on alfalfa at Orovada, Humboldt County. (Arnett, Lauderdale).

MEADOW SPITTLEBUG (Philaenus spumarius) - OHIO - Nymphal averages per alfalfa stem ranged 0.1 to 0.9 in 5 southwestern counties. (Lewis). TENNESSEE - Observed in alfalfa fields in Robertson and Sumner Counties on May 19. Collected and determined by L.C. Green. These are new county records. (Gordon, Bruer).

VARIEGATED CUTWORM (Peridroma saucia) - OKLAHOMA - Ranged 3-5 per square foot in Muskogee County alfalfa. Moderate to heavy in Bryan County, light to moderate in Garvin County, and heavy under windrows of cut Stephens County alfalfa. (Okla. Coop. Sur.). NEBRASKA - Increased in alfalfa in east, southeast, and central districts. Scattered fields may need treatment in these areas. Populations per 100 sweeps by county (one field) as follows: Cass 22, Clay 25, Johnson 48, Richardson 80. Heaviest population noted in Richardson County field at 54 per 10 sweeps. (Miller et al.). INDIANA - Trace larval populations found in grassy alfalfa fields as far north as Washington County by May 14. (Meyer).

FALSE CHINCH BUG (Nysius ericae) - NEW MEXICO - Populations in Valencia County alfalfa ranged 10-50 per 25 sweeps. Also prevalent throughout Carlsbad and Artesia areas, Eddy County. (N.M. Coop. Rpt.).

ALFALFA LOOPER (Autographa californica) - WASHINGTON - Adult catches averaged 1 or 2 per pheromone trap in Walla Walla area of Walla Walla County during period May 1-12. (Halfhill).

ALFALFA BLOTCH LEAFMINER (Agromyza frontella) - NEW YORK - Adults ranged 4-8 per 10 sweeps of alfalfa in Columbia County. No pin hole injury noted. (Piester).

STRAWBERRY SPIDER MITE (Tetranychus turkestanii) - NEW MEXICO - Populations continued on alfalfa in Northern Valley, Dona Ana County, though first cutting relieved pressure. Cotton adjoining alfalfa fields should be watched. (N.M. Coop. Rpt.).

COTTON

BOLL WEEVIL (Anthonomus grandis) - TENNESSEE - Ranged 26-203 per grandlure trap in Hardeman and McNairy Counties. Conditions ideal for emergence, peak emergence expected last 14 days of May. If weather conditions favorable, first and second-generation weevils will be at, or above, treatment levels in most cotton-growing areas of State. (Locke). ALABAMA - Live-weevil counts continued heavier on 2 to 5-leaf cotton than in recent years. Weevils averaged 250 and 50 per acre at 2 sites in Shelby County. In Limestone County, 15 collected along border rows in field at Mina; numerous feeding signs observed in 2 of 8 fields. Counts ranged 50-300 per acre at 10 locations in Monroe and Covington Counties. (Eich et al.). TEXAS - Punctured square counts not heavy in Rio Grande Valley area. Overwintered adults observed in Fort Bend, Calhoun, and Brazos Counties. (Norman et al.).

BOLLWORM (Heliothis zea) - TEXAS - Light in lower Rio Grande Valley. Only one field with heavy infestation, 18 percent, for this time of season. Larvae ranged 0-6 per 100 terminals in other fields. Eggs found in less than 10 percent of fields. Moth counts light in Reeves County light trap. (Deer et al.).

TOBACCO BUDWORM (Heliothis virescens) - TEXAS - Moth counts light in Reeves County light trap. (Neeb).

BLACK CUTWORM (Agrotis ipsilon) - ALABAMA - Larvae destroyed 4 acres of cotton on 2 farms in Limestone County. (Eich et al.).

COTTON FLEAHOPPER (Pseudatomoscelis seriatus) - TEXAS - Activity increased in Rio Grande Valley, many fields with 1+ per plant; in many cases fruit severely damaged. Controls applied. (Norman, Deer).

BANDEDWING WHITEFLY (Trialeurodes abutilonea) - ALABAMA - Adults ranged 2-10 per hill in four fields in Shelby County. (Eich et al.).

MISCELLANEOUS FIELD CROPS

SUNFLOWER MOTH (Homoeosoma electellum) - TEXAS - Damaged sunflower heads in Weslaco area despite 3 spray applications. Also observed in Corpus Christi and Chillicothe areas. (Rogers).

AN OLETHREUTID MOTH (Suleima heliathana) - TEXAS - Larvae damaged stems and heads of sunflower in Corpus Christi vicinity. First damage observed in Chillicothe area. (Rogers).

CARROT BEETLE (Bothynus gibbosus) - TEXAS - Destroyed 5-10 percent of sunflower seedlings in Chillicothe experimental plots. Adults ranged 10,000-15,000 per light trap per night in Wilbarger and Knox Counties. (Rogers, McIntyre).

NORTHERN CORN ROOTWORM (Diabrotica longicornis) - OKLAHOMA - Three adults of D. l. barberi (see CEIR 19(8):112-113) collected from Helianthus annuus (sunflower) at Vinita, Craig County, July 20, 1966. Collected by D.C. Arnold. Determined by R. White. This is a new county record. (Okla. Coop. Sur.).

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata howardi) - TEXAS - Caused much foliage damage to sunflower seedlings in Temple area. (Rogers).

POTATOES, TOMATOES, PEPPERS

COLORADO POTATO BEETLE (Leptinotarsa decemlineata) - MARYLAND - Adults active, feeding and ovipositing in all tomato and potato-growing areas east of Frederick County. Populations and damage again expected to be heavy where no controls applied. Some first and second-instar larvae active in Somerset and Worcester Counties, damage still light to date. (U. Md., Ent. Dept.). OHIO - First activity of overwintered adults in Wayne County garden noted May 18. (Purrington). ALABAMA - Infested potatoes at several locations in Clay, St. Clair, Blount, Cullman, and Morgan Counties. (Baker et al.). OKLAHOMA - Heavy infestations noted on home-garden potatoes in Tillman and Garvin Counties and light in Comanche, Roger Mills, and Muskogee Counties. (Okla. Coop. Sur.).

VARIEGATED CUTWORM (Peridroma saucia) - KANSAS - Very damaging to tomatoes and potatoes in gardens in Shawnee and Douglas Counties. (Bell).

BEANS AND PEAS

PEA LEAF WEEVIL (Sitona lineatus) - IDAHO - Populations general in peas, injury ranged none to severe. Some fields destroyed due to severe damage. Many populations ranged 0.5-1+ per plant. Treatment general on emerged peas. Up to 2 adults per sweep noted in some Potlatch area, Latah County, alfalfa fields. (O'Keefe, Fisher).

MEXICAN BEAN BEETLE (Epilachna varivestis) - ALABAMA - All stages damaged lima beans and snap beans throughout State. Controls general. (Johnson et al.).

BEAN APHID (Aphis fabae) - ALABAMA - Infested commercial bean planting in Houston County. Caused severe leaf curling; virus diseases likely to follow. (Stephenson et al.).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - TEXAS - Larvae infested cabbage, beans, and pepper in south-central area. Severe in home gardens in Stephenville area. (Cole, Hoelscher).

GENERAL VEGETABLES

ONION THRIPS (Thrips tabaci) - CALIFORNIA - Onion plantings required treatment in Imperial County. (Cal. Coop. Rpt.).

ASPARAGUS BEETLES (Crioceris spp.) - INDIANA - Oviposition by C. asparagi (asparagus beetle) observed with some hatching in Tippecanoe County asparagus. Adults of C. duodecimpunctata (spotted asparagus beetle) also observed. (York, Meyer).

ONION MAGGOT (Hylemya antiqua) - MICHIGAN - Adults very active in all onion-growing areas. Foliar treatments should be applied. (Leibherr).

DETECTION

New State Records - A LEAFMINER FLY (Phytomyza glabricola) - PENNSYLVANIA - Bucks County. (p. 446). ODD BEETLE (Thylodrias contractus) - OKLAHOMA - Payne County. (p. 448).

New County and Island Records - ALFALFA WEEVIL (Hypera postica) NEW MEXICO - Eddy, Roosevelt (p. 439). ARMYWORM (Pseudaletia unipuncta) SOUTH CAROLINA - Dillon, Aiken (p. 435). MEADOW SPITTLEBUG (Philaenus spumarius) TENNESSEE - Robertson, Sumner (p. 441). NORTHERN CORN ROOTWORM (Diabrotica longicornis) OKLAHOMA - Craig (p. 443). RED IMPORTED FIRE ANT (Solenopsis invicta) FLORIDA - Indian River (p. 451). WESTERN CORN ROOTWORM (Diabrotica virgifera) OKLAHOMA - Pontotoc, Logan (p. 438).

HAWAII - CORN LEAF APHID (Rhopalosiphum maidis), A TREEHOPPER (Antianthe expansa), CABBAGE APHID (Brevicoryne brassicae), TOBACCO FLEA BEETLE (Epitrix hirtipennis), GREEN PEACH APHID (Myzus persicae) - Lanai Island. (p. 451).

DEPARTMENT OF AGRICULTURE
 HEALTH INSPECTION SERVICE
 and Quarantine Programs

grasshopper adult surveys made during the late
 how many grasshoppers infest an area, and indicates
 surveys, made in the spring, determine population
 be necessary in 1975.

handled by the farmers with technical assistance
 . The infested rangeland areas total 6,024,080 acres
 are diagrammatic. Within these areas, infestations

GRASSHOPPER INFESTATIONS
 REGIONS, FALL 1974

(shown in red)

REGION AND STATE	LANDOWNERSHIP--ACRES		TOTAL ACRES
	Private and State	Public Domain	
Utah	16,000	38,400	54,400
Washington	22,500	12,700	35,200
Wyoming	1,140,800	294,440	1,435,240
SOUTHCENTRAL			
Nebraska	603,000	97,000	700,000
New Mexico	277,440	101,000	378,440
Oklahoma	958,000	--	958,000
Texas	171,460	--	171,460

ion and Quarantine personnel in cooperation with various



3 to 7 GRASSHOPPERS PER SQUARE YARD
(usually non-economic)

8 or MORE GRASSHOPPERS PER SQUARE YARD
(may require treatment)

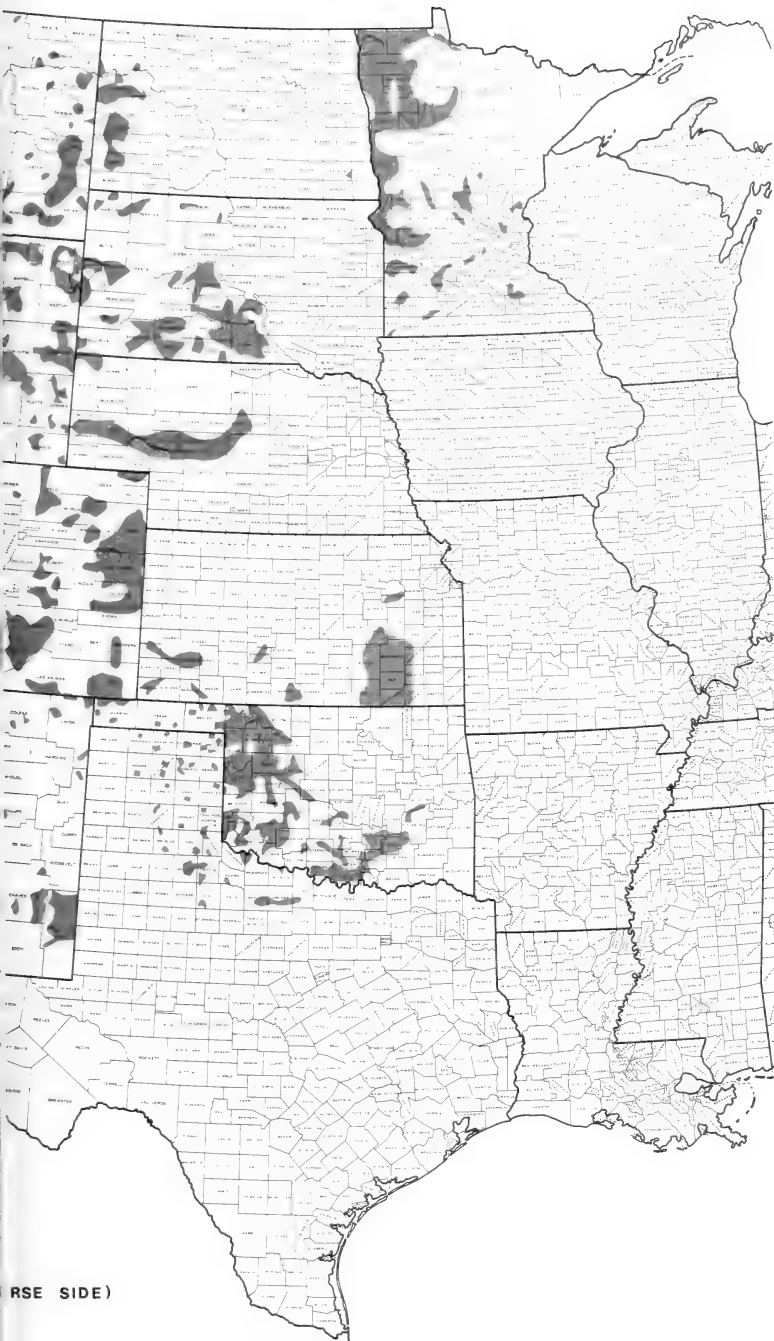
NECESSITY FOR CONTROL ON CROP OR RANGELAND NEXT SEASON
WILL DEPEND UPON TYPE OF HABITAT, SPECIES PRESENT, WEATHER
AND CONDITION OF VEGETATION

DETAILED INFORMATION CONCERNING THE GRASSHOPPER PROBLEM
IN SPECIFIC AREAS CAN BE OBTAINED FROM STATE PEST CONTROL
OFFICIALS, COUNTY AGENTS AND PLANT PROTECTION PERSONNEL

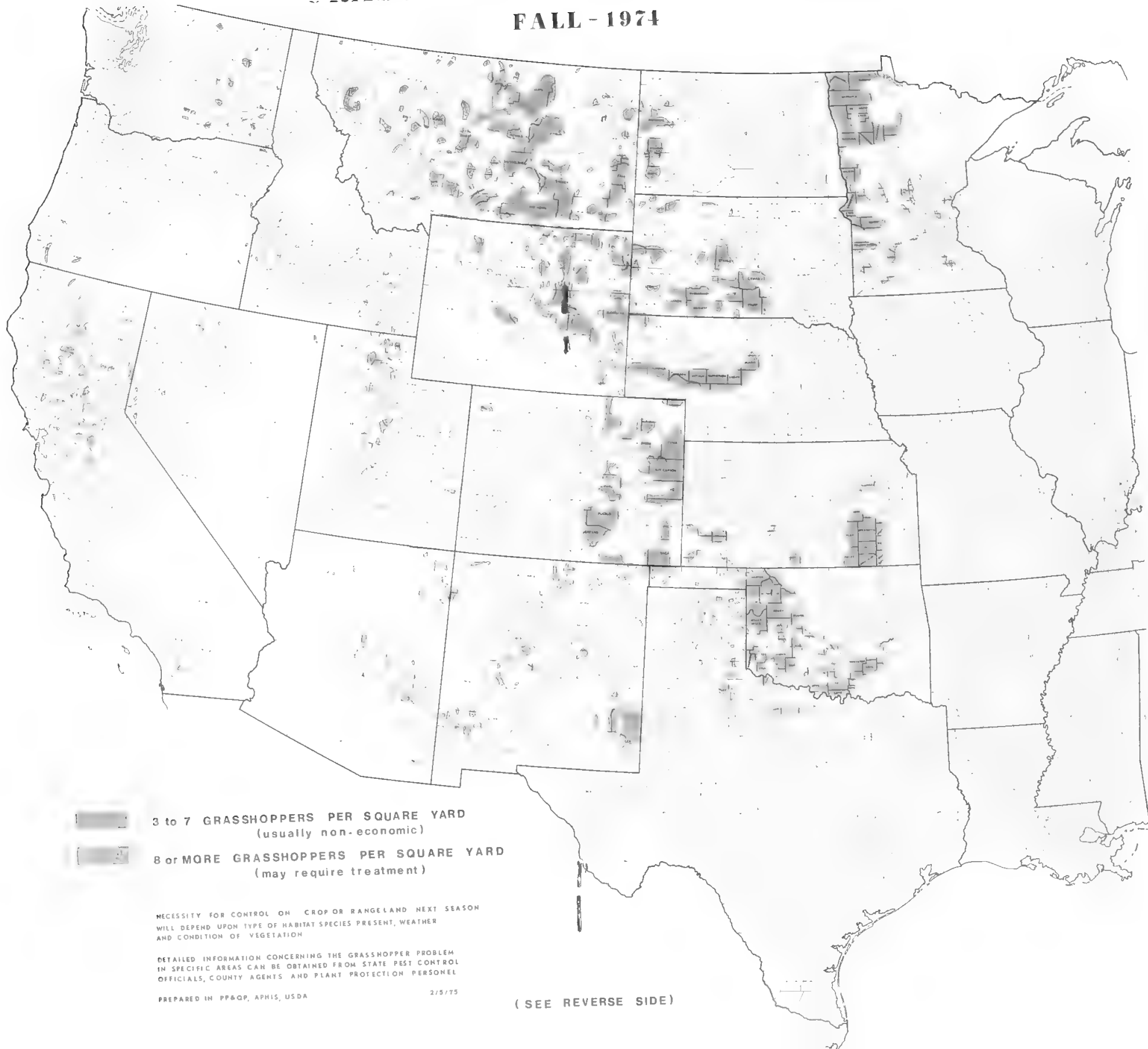
PREPARED IN PP&QP, APHIS, USDA

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FALL - 1974



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8 or MORE GRASSHOPPERS PER SQUARE YARD
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NECESSITY FOR CONTROL ON CROP OR RANGELAND NEXT SEASON
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OFFICIALS, COUNTY AGENTS AND PLANT PROTECTION PERSONNEL

PREPARED IN PP&QP, APHIS, USDA

2/5/75

(SEE REVERSE SIDE)

TO COOPERATORS:

This map is based upon the results of cooperative surveys during the summer and fall of 1974. The survey reveals where and to what extent the potential severity of infestations for 1975. Nymph densities, and indicate those areas where control measures should be taken.

Control on grasshopper infested croplands will be provided by the U.S. Department of Agriculture from Plant Protection & Quarantine and State personnel in 16 Western and Midwestern States. Areas on the map may be solid or spotted.

RANGELAND GRASSHOPPER
 ACREAGE BY STATE

(Areas with grasshopper infestation)

REGION AND STATE	LANDOWNERSHIP--ACRES		TOTAL ACRES
	Private and State	Public Domain	
WESTERN			
Arizona	--	35,000	35,000
California	235,300	23,100	258,400
Colorado	146,340	3,000	149,340
Idaho	41,400	126,000	167,400
Montana	720,420	792,900	1,513,320
Nevada	1,560	--	1,560
No. Dakota	48,000	42,480	90,480
Oregon	2,200	13,640	15,840
So. Dakota	55,000	5,000	60,000

The survey was planned and performed by Plant Protection and State Agencies concerned.

DECIDUOUS FRUITS AND NUTS

ORIENTAL FRUIT MOTH (Grapholitha molesta) - WASHINGTON - In 160-acre peach orchard near Zillah, Yakima County, 107 male moths taken in 32 pheromone traps week ending May 4, and 82 taken week ending May 11. (Williams et al.). NEW YORK - First moths taken in pheromone traps May 12 in Ulster County peach block, May 14 in Ontario County apple block, and May 12 in Wayne County. (Wieres et al.).

CODLING MOTH (Laspeyresia pomonella) - OHIO - First adult in blacklight traps recorded May 19. (Hall). COLORADO - Adults active in orchards at Ft. Collins, Larimer County. (Hantsbarger). WASHINGTON - Moths averaged 21.1 per trap in 12 pheromone traps located in apple and pear orchards in lower Yakima Valley week ending May 12. Peak emergence flights expected May 21-24. (Johnson, Hudson).

REDBANDED LEAFROLLER (Argyrotaenia velutinana) - MAINE - Activity increased week of May 10-17 when pheromone trap catches averaged 6 moths per trap per day. (Gall).

PLUM CURCULIO (Conotrachelus nenuphar) - MAINE - Active in fruit areas, few observed May 18. With recent mild and sunny weather, early emergence expected. (Gall).

GREEN PEACH APHID (Myzus persicae) - OREGON - Alates trapped in peach orchards in Hermiston and Boardman areas, Umatilla County. (Maxwell, Goeden).

PEAR PSYLLA (Psylla pyricola) - WASHINGTON - First summer-generation adults noted on pears May 15 at Ahtanum and Sawyer, Yakima County. (Gregorich, Eves).

OYSTERSHELL SCALE (Lepidosaphes ulmi) - MAINE - Heavy on apple and flowering crab apple trees in 3 central areas. (Gall).

PECAN PHYLLOXERA (Phylloxera devastatrix) - ALABAMA - This species and P. notabilis (pecan leaf phylloxera) heavier on pecan foliage than most years in orchards in Escambia, Bullock, Perry, and Lee Counties. (Strother, Bates).

EUROPEAN RED MITE (Panonychus ulmi) - MAINE - Hatch of overwintered eggs began May 13, one day earlier than 1974 and 10 days later than 1973. At Highmoor, Kennebec County, 8-year average first-hatch date is May 12. Ranged 3-5 per spur leaf in small orchard at Sebec, Piscataquis County; heavy for time of year. (Gall). OHIO - Populations developing very rapidly during recent hot weather and ahead of normal in Wayne County. (Hall). WASHINGTON - Late-instar nymphs noted on apple trees at Ahtanum, Yakima County, May 12. (Gregorich).

CITRUS

PURPLE SCALE (Lepidosaphes beckii) - FLORIDA - All stages of this species and Pinnaspis strachani (an armored scale) noted heavy on stems, leaves, and bark of 15 percent of 2,268 Star Ruby grapefruit trees (Citrus paradisi) at nursery in northern Brevard County by May 15. (Fla. Coop. Sur.).

ORNAMENTALS

NAVEL ORANGEWORM (Paramyelois transitella) - CALIFORNIA - Larvae and pupae heavy in loquat fruit at El Cajon, San Diego County. (Cal. Coop. Rpt.).

A LEAFMINER FLY (Phytomyza glabricola) - PENNSYLVANIA - Adults emerged from puparia in leaf mines on Japanese holly (Ilex crenata) collected at Quakertown, Bucks County, by L. Signarovitz, April 10, 1975. Adults emerged 9-10 days after collection of puparia. Determined by K. Valley. This is a new State record. (Kim).

FOREST AND SHADE TREES

SPRUCE BUDWORM (Choristoneura fumiferana) - MAINE - Third-instar larvae near peak in all areas, some fourth instars found. Development rapid due to warm weather. Larval infestations appear lighter than winter counts indicated on balsam fir Christmas tree plantations in southern area. (Gall). OHIO - Larvae heavy, up to 25 percent of new shoots per tree infested; in 125 acres of white, Norway, and blue spruce trees interplanted with 3 Pinus spp. in Trumbull County. Damage moderate to severe. Population probably heavier than any previously encountered in State due to massive migration of adults blown by severe thunderstorm that crossed northern area July 14, 1974. Widespread damage expected across much of northeastern area this summer. (Nielsen). MICHIGAN - Damage evident in Lansing area, Ingham County. Larvae mining needles and beginning to web groups of about 3 needles. Larval densities about 3 per shoot on some trees. This density in ornamental situation may warrant control. (Mosher, Liebherr).

SPRUCE NEEDLEMINER (Taniva albolineana) - CALIFORNIA - Local infestations on blue spruce (Picea pungens) at Susanville, Lassen County, detected by D. Howe and T. Haig, May 19, 1975. Determined by T. Eichlin. This species previously eradicated from State. (Cal. Coop. Rpt.).

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana) - WASHINGTON - Pupation just begun at Pyallup, Pierce County; 2 percent by May 14. (Barstow).

A GELECHIID MOTH (Exoteleia nepheos) - OHIO - Overwintered larvae transferred to newly expanding buds on Scotch pine. Movement 2 days later than average transfer date for northeastern counties for past several years. Previously retarded development, due to a cool spring, appears to be "catching up" with recent warm weather. (Balderston).

A SCOLYTID BEETLE (Pityophthorus carmeli) - CALIFORNIA - Larvae and adults noted at 75 per limb on Torrey pine at San Diego County. (Cal. Coop. Rpt.).

EUROPEAN PINE SAWFLY (Neodiprion sertifer) - MICHIGAN - Most larvae in third instar, treatment should be applied now before significant tree defoliation occurs. All eggs hatched, control at this time will be complete. (Liebherr).

PINE SPITTLEBUG (Aphrophora parallela) - OHIO - Early instars moderate on Scotch pine in Stark County. (Balderston).

PINE NEEDLE SCALE (Phenacaspis pinifoliae) - OHIO - Overwintered egg hatch complete in Trumbull County. (Nielsen). MINNESOTA - Crawler stage developing in Saint Paul and Minneapolis area southward. (Minn. Pest Rpt.).

ELM LEAF BEETLE (Pyrrhalta luteola) - TEXAS - Light to moderate, damaged elm shade trees in Taylor and Sutton Counties. Chinese elms damaged in Motley and Wilbarger Counties. (McWhorter, Boring). OKLAHOMA - Larvae heavy on Tillman County elm trees, also heavy in Noble and Cleveland Counties. (Okla. Coop. Sur.). NEVADA - Eggs noted on elm trees at Caliente. Lincoln County. (Zoller). OREGON - Slight feeding damage to elms noted at Nyssa and Ontario, Malheur County; few adults observed. (Penrose).

SMALLER EUROPEAN ELM BARK BEETLE (Scolytus multistriatus) - OREGON - Pupation began at Union, Union County, May 20. (Penrose et al.).

FOREST TENT CATERPILLAR (Malacosoma disstria) - INDIANA - Third and fourth-instar larvae caused 25-100 percent defoliation of overstory in stand of about 100 acres, mainly oak, in northwest corner of Lawrence County along Indian Creek by May 12. (Willard, Marshall). MICHIGAN - Heavy third-instar infestation noted near Atlanta, Montmorency County. Some trees completely defoliated. (Mosher).

OAK LECANIUM (Lecanium quercifex) - ARKANSAS - Infestations still very heavy on oak shade trees at McGehee, Desha County. Crawler stage very heavy in lawns at McGehee. (Boyer).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 92 cases reported from continental U.S. during period May 11-17 as follows: Texas 91, Arizona 1. Total of 36 cases confirmed from Mexico. Number of sterile flies released in U.S. this period totaled 801,452,200 as follows: Texas 791,642,200; New Mexico 1,846,800; Arizona 7,963,200. Total of 83,157,900 sterile flies released in Mexico. (Vet. Serv.).

FACE FLY (Musca autumnalis) - MARYLAND - Adult counts unchanged past 14 days. Averaged 5 per head on most dairy and beef herds. Some first-generation adults active and new adult populations should increase steadily over next few weeks. Above-normal populations in central area expected in 1975. (U. Md., Ent. Dept.). TENNESSEE - Ranged 40-45 per head on cattle in Cumberland County. At this time in 1974, populations ranged 0-5 per head. Eye diseases beginning to become major problem in some herds in Cumberland and Maury Counties. Populations very heavy for time of year in Maury County. Treatment planned for both face fly and eye diseases (pinkeye) as populations will continue to increase during summer. (Gerhardt). ALABAMA - Averaged 25 per beef animal in Limestone County. Treatments applied weekly, populations return to 25+ per face within 1-2 hours after treating. Pinkeye noted. (Webster et al.).

MISSOURI - Face fly in 3 herds in northwest area ranged 5-30 (average 12.5) per head. (Munson). OKLAHOMA - Heavy on whitefaced calves in southern Washington County. (Okla. Coop. Sur.).

HORN FLY (Haematobia irritans) - TENNESSEE - Ranged 20-25 per head of livestock in Cumberland County. (Gerhardt). MISSISSIPPI - Up to 1,000 noted on mixed breeds of beef cattle in Oktibbeha, Winston, and Attala Counties. (Robinson). TEXAS - Light to moderate on many cattle, sheep, and goats throughout San Angelo area. Active in Uvalde area. (McWhorter, Stewart). OKLAHOMA - Averaged 200 per head on Payne County cattle. Moderate in Bryan County and light to moderate in Comanche County. (Okla. Coop. Sur.).

STABLE FLY (Stomoxys calcitrans) - OKLAHOMA - Averaged 5 per head on Payne County dairy cattle. (Okla. Coop. Sur.).

MOSQUITOES - MAINE - Adults increased in central and southern areas. (Gall). MINNESOTA - Several heavy adult populations reported. In one case, flooding of Minnesota River apparently left backwater pools which produced large populations. (Minn. Pest Rpt.).

A BIBIONID FLY (Plecia nearctica) - ALABAMA - Annual flight of first generation "love bugs" underway in southern Monroe and Escambia Counties. Flights light past 15 days. (Gamble.)

AMERICAN DOG TICK (Dermacentor variabilis) - MARYLAND - Overwintering populations well above normal in most central counties. Some problems with Rocky Mountain spotted fever expected in Montgomery and Prince Georges Counties in June. (U. Md., Ent. Dept.).

ROCKY MOUNTAIN WOOD TICK (Dermacentor andersoni) - NEVADA - Adults ranged 2-3 per square yard on 300+ acres of rangeland south of Elko, Elko County. (Kail, Peters).

EAR TICK (Otobius megnini) - TEXAS - Infested cattle, sheep, and goats in San Angelo area. (McWhorter).

HOUSEHOLDS AND STRUCTURES

ODD BEETLE (Thylodrias contractus) - OKLAHOMA - Several larvae taken from collection of pinned insects at Stillwater, Payne County, March 5, 1975. Collected by D.C. Arnold. Determined by J.M. Kingsolver. This is a new State record. Several adults also taken during 14 days following larval collection. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

LADY BEETLES - KENTUCKY - Larvae and adults of various species averaged 130 per 100 sweeps in Morgan County wheat. (Barnett). NEW MEXICO - Mainly Hippodamia convergens (convergent lady beetle) ranged up to 15 per 25 sweeps in Valencia County alfalfa. Populations in this area seem less than those in Dona Ana, Eddy, and Chaves Counties. (N.M. Coop. Rpt.). WASHINGTON - H. convergens first noted in peach orchards at shuck split stage near Parker, Yakima County, May 8. (Todd et al.).

BRACONID WASPS - PENNSYLVANIA - Apanteles melanoscelus (19,490), A. porthetriae (14,450), and Meteorus pulchricornis (15,150) released for control of Porthetria dispar (gypsy moth) in Berks, Bucks, Chester, Dauphin, Lancaster, Lebanon, Lehigh, Montgomery, and Schuylkill Counties. (Kim).

A MYMARID WASP (Anaphes flavipes) - This egg parasitoid of Oulema melanopus (cereal leaf beetle), recovered from O. melanopus eggs as follows: MARYLAND - In 3 fields in Washington County by W. Drosselmeyer May 23. MICHIGAN - In Bronson and Gillard Townships of Branch County May 19 by D. Loree. In 2 fields at Bertrand, Berrien County, May 22 by J. Beach. OHIO - In Troy Township May 15 and Huntsburg Township May 19 in Geauga County by W. Purgert. This is first time recovered. PENNSYLVANIA - In Gamble and Hepburn Townships of Lycoming County May 22 by A. Proseus. WEST VIRGINIA - In Couch Magistral District May 19 and in Southside and Beech Hill Magistral Districts May 22, all in Mason County, by S. Moore. (PPQ).

ICHNEUMOND WASPS - OHIO - Lemophagus curtus, a larval parasitoid of Oulema melanopus (cereal leaf beetle), recovered from O. melanopus larvae collected May 22 in Fairfield County by J. Wheeler. This is first time recovered in this county where previously released. MICHIGAN - Adult of Diaparsis sp., a larval parasitoid of O. melanopus, recovered in Berrien County field insectary May 22 by V. Montgomery. This is same time adult taken in 1974. (PPQ).

HONEY BEE (Apis mellifera) - OHIO - Dandelion and fruit bloom nearly perfect for honey bee development this spring, with no damaging freeze since bloom began. Most colonies very strong with up to 20 pounds of honey surplus in some areas. Ground moisture still adequate. Very heavy spring honey flow much above average for May 22. (Connor, Cottrel).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (Oulema melanopus) - NEW YORK - Eggs noted May 13 on 3-inch tall oats in Livingston County and May 14 in 3-inch oats and 6-inch wheat in Tompkins County. Injury to oats and wheat in Tompkins County easily found along hedgerows and in depressed protected portions of fields. Growers unaware of infestation. (LeMaire, Willson). Overwintered adults and eggs reported May 14 in Tioga County. Adult activity, eggs (averaged 0.8 per square foot), and small larvae observed in Cayuga County small grains. Average egg counts ranged 0.5-14.1 per square foot in Tompkins County small grains May 22; early larvae also observed. (Willson, Gerber). PENNSYLVANIA - Adults ranged 1-44 per 100 sweeps, eggs 1-160 per 10 row feet, and up to 10 percent damage noted during survey of oats, wheat, and grass in 32 counties May 16 and 17. (Kim).

MARYLAND - First and second-instar cereal leaf beetle larvae active in small grains at several locations in Prince Georges, Montgomery, and Frederick Counties. No economic injury reported. Economic populations expected to cause trouble in Washington, Allegany, and Garrett Counties on spring oats by mid-June. (U. Md., Ent. Dept.). WEST VIRGINIA - Eggs averaged 2 per square foot in Wood County oats. Eggs and larvae averaged 80 and 10, respectively, in Mason County oats. Larvae, mainly first and

second instars with some third instars, averaged 3 per square foot in Mason County oats. Cereal leaf beetle eggs and larvae averaged 2 per square foot in Jackson County oats. (Tustin et al.). TENNESSEE - Surveys of grain fields in Weakley, Henry, Stewart, and Montgomery Counties negative. (Gordon). KENTUCKY - All surveys in Morgan County wheat negative. (Barnett).

OHIO - Cereal leaf beetle adults averaged 25 per 100 sweeps and eggs 10 per square yard in Coshocton County oats. Some first-instar larvae noted. Adults noted at 15 per 100 sweeps and larvae 6 per square foot (average) on Guernsey County oats. (Prentice). INDIANA - One adult, 3-4 first and second-instar larvae, and no eggs noted in survey of small grains in 6 southeast counties May 13 and 14. Area once hosted heavy infestations. Currently, larvae light in some southeast and central district oatfields. (Favinger, Huff). MICHIGAN - Adults heavy in wheat in Muskegon County and other areas. Growers advised to check wheat and oats for all stages. (Ruppel, Ferris). Larvae noted in Cass County wheatfields. (Hothem).

COMSTOCK MEALYBUG (Pseudococcus comstocki) - CALIFORNIA - All known infested blocks treated in Wasco, Kern County; buffer area currently being treated. Treatment 50 percent complete at Lindsay, Tulare County. At Delans, Kern County, treatment 35 percent complete, spot infestations about 50 percent complete. At Earlimart, Tulare County, about 5,000 Clausenia purpurea (an encyrtid wasp) released for biological control. (Cal. Coop. Rpt.)

A GRASS BUG (Labops hesperius) - SOUTH DAKOTA - Damaged crested wheatgrass in western area. This species becoming more of problem in State each year. (Walgenbach).

GRASSHOPPERS - WASHINGTON - First-instar nymphs observed May 11 north of Pasco, Franklin County, and west of Richland, Benton County. Due to cool spring, hatch at these locations 14+ days later than normal. (Blackburn). WYOMING - New egg hatch occurred north of Lingle, Goshen County. Nymphs of Aulocara ellioti, Amphitornus coloradus, Cordillacris occipitalis, and Ageneotettix derorum ranged 6-10 per square yard. (Gentle et al.). NORTH DAKOTA - Light hatch occurred in Richland County. Melanoplus sanguinipes and M. bivittatus first-instar nymphs present with M. sanguinipes dominant. Averaged less than one per square yard in field margins. (Scholl).

GYPSY MOTH (Porthetria dispar) - PENNSYLVANIA - Percent egg hatch on oak trees by county May 12-15: Monroe 25, Carbon 50-100, Pike 50-100, Wayne 100 (larval feeding noted). (Sporer). Parasite release program for southeastern counties against early instars began May 8. (Ticehurst). OHIO - Aerial controls applied to about 300 acres of trees and shrubs near Dayton, Montgomery County. Adult males trapped summer 1974 and one male previous summer. Smaller area at same location treated earlier this month with ground equipment. Geauga County location treated where 2 P. dispar males caught last season. (Roach).

JAPANESE BEETLE (Popillia japonica) - OHIO - Larvae (mostly second, some third instars) 20 per square foot of sod in Wayne County. (PPQ).

RED IMPORTED FIRE ANT (Solenopsis invicta) - FLORIDA - Collected in St. Lucie County one-half mile south of Indian River County line April 22, 1975, by A.L. Collier. Determined by D.R. Smith. This is a new county record. (Collier).

HAWAII INSECT REPORT

General Vegetables - CORN LEAF APHID (Rhopalosiphum maidis) heavy in backyard corn planting of 200 square yards at Lanai City, Lanai. Hundreds of individuals in leaf sheaths of 95+ percent of plants. Excessive honeydew attracted flies, wasps, and beetles. CORN PLANTHOPPER (Peregrinus maidis) moderate in leaf sheaths of same planting; 15 or less per sheath. All stages of a TREEHOPPER (Antianthe expansa) ranged light to moderate on tomato, chili pepper, and eggplant at Lanai City. Previously recorded from Oahu (1971), Hawaii (1972), and Kauai (1973). CABBAGE APHID (Brevicoryne brassicae) light on broccoli and cabbage at Lanai City; damage noticeable. Recorded from all islands except Molokai. TOBACCO FLEA BEETLE (Epitrix hirtipennis) light to moderate, 2-10 adults per leaf on infested eggplant in community gardens at Lanai City; damage variable. Recorded from all islands except Maui. GREEN PEACH APHID (Myzus persicae) light on broccoli and cabbage at Lanai City; no appreciable damage observed. Now recorded from all islands except Molokai. R. maidis, A. expansa, B. brassicae, E. hirtipennis, and M. persicae are new island records for Lanai. (Mau).

Fruits and Ornamentals - Statewide surveys for BANANA SKIPPER (Erionota thrax) indicated slight increases in infestations and damage. Infestations have been detected as far north as Laupahoehoe on Hawaii Island; damage still light. Pest has not been found in any eastern area of Maui; damage increased noticeably at Wailuku and Napili. Infestation estimated at 20 percent of host trees and 10 percent of leaves with larvae. On Kauai, damage light. Populations on Oahu still under control. (Sugawa et al.). Surveys for OLEANDER HAWK MOTH (Deilephila nerii) on Kauai indicated distribution limited; no new infestations found outside of Wailua. Surveys negative at Lihue and Hanamaulu. (Sugawa). Larvae of a NOCTUID MOTH (Phlegetonia delatrix) caused severe (30-50 percent) defoliation of mountain apple at Waihee, Maui. Only midribs remained on many leaves of one large tree. Moderate damage observed on Java plum in same area. (Ah Sam). COCONUT LEAFROLLER (Hedylepta blackburni) caused moderate to heavy damage on 100+ coconut trees at Lahaina, Maui. Similar damage observed at Kahe Point, Oahu, and on several trees at Kaunapali Harbor, Lanai. (Mau).

Beneficial Insects - Parasitism of Ophiomyia phaseoli (bean fly) by BRACONID WASPS (Opius spp.) decreased generally on Kauai during April. Parasitism 71 percent islandwide, but as low as 50 percent in some areas. (Sugawa, Mendez). AN ENCYRTID WASP (Ooencyrtus erionotae), an egg parasite of Erionota thrax (banana skipper), recovered for first time on Maui at Waikapu and Wailuku; egg parasitism 44 and 2.8 percent respectively. Initial releases of O. erionotae made in February 1975. (Miyahira).

2007
A New Genus of Tenuipalpidae (Acarina)
from India

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Abstract: Obuloides rajamohani, n. gen., n. sp. (Tenuipalpidae: Acarina) are described from plant galls caused by Eriophyes hibisci Nalepa on Hibiscus sp., Coimbatore, Tamil Nadu, India.

To date two genera of the plant feeding false spider mites, Obdulia Pritchard and Baker (1958) and Larvacarus Baker and Pritchard (1952) have been described from plant galls. The first was described from specimens from twig galls on Tamarix maris-mortui Gutm., Israel, and the second was described from galls on Zizyphus sp., India. Specimens of the new genus were collected by Dr. N. Rajamohan, Department of Entomology, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India, from galls formed on hibiscus leaves by an eriophyid mite, Eriophyes hibisci Nalepa. All three genera possess rudimentary palpi but differ in other characters.

Obuloides, new genus

Type-species, Obuloides rajamohani, n. sp.

This genus is distinctive in having a complete reduction of the palpi which bear a seta and a solenidion, in having the usual four pairs of legs, in having only two pairs of dorsocentral setae and five pairs of marginal setae but no submarginal setae, and in having a pair of genital setae.

Obuloides rajamohani, n. sp.
(Figures 1-7)

Female. Rostrum rounded posteriorly, narrowing anteriorly; palpi completely reduced, consisting of a slight indentation on each side of the rostrum, each bearing a solenidion and a seta; venter of rostrum with a pair of short, simple setae; peritreme simple, ending in a bulblike enlargement. Dorsal body setae long, strong and serrate except for anterior pair of minute propodosomal setae; propodosoma with three pairs of setae and two pairs of eyes; hysterosoma with two pairs of dorsocentral setae, the first pair longer and pointing anteriorly; with five pairs of marginal setae

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somewhat shorter than dorsocentrals, becoming slightly shorter posteriorly; hysterosoma divided by transverse suture between dorsocentral setae; dorsal striae with strong lobes, as figured. Ventral body setae, except for long propodosomal setae, short and simple; with one pair of pregenital setae and a pair of genital setae; with a pair of anal setae. Claws of all tarsi padlike; empodia similar but smaller; setal pattern of legs from coxae to tarsi: I, 2-1-3-1-4-6; II, 2-1-3-1-3-6; III, 1-1-1-0-2-3; IV, 0-1-1-0-2-5; no solenidion on tarsi although tarsi I and II each with a long, rodlike seta. Length of body, 162 μ ; including rostrum, 204 μ ; width, 96 μ .

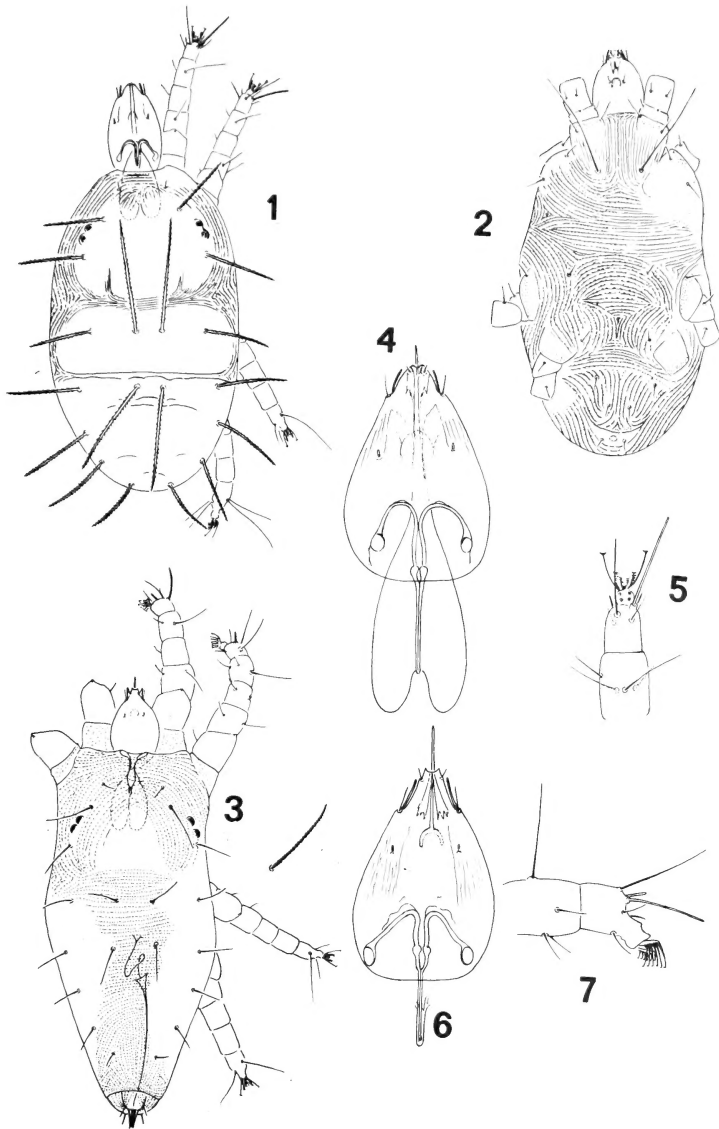
Male. Rostrum similar to that of female; dorsal body setae much shorter and more slender but in general having a similar pattern to that of female; body narrowing posteriorly; hysterosoma not divided by transverse suture; striae with small lobes; setal formulae of legs as that for female except tarsi I and II each with a short solenidion and as in female each tarsus with long rodlike seta set on strong tubercle; empodia and claws padlike. Length of body, 194 μ ; including rostrum, 230 μ ; width, 89 μ .

Holotype. Female, U.S. National Museum No. 3689, from galls of Eriophyes hibisci Nalepa on Hibiscus sp. leaf, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India, January 1975 by Dr. N. Rajamohan for whom the mite is named.

Paratypes. Eighteen males and eight females with the same data, deposited in the U.S. National Museum.

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Obduloides rajamohani, n. sp. 1, dorsal view of female; 2, ventral view of female; 3, dorsal view of male; 4, dorsal view of rostrum of female; 5, tarsus I of female; 6, rostrum of male; 7, tarsus I of male.

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Weather of the week continued from page 434.

eastern Nebraska and the Dakotas. Thunderstorms continued to batter the North Central States. Tornadoes, hail, and heavy rain hit Ohio and Michigan the hardest. Other thundershowers fell over Pennsylvania, New Jersey, Maryland, and Delaware. Late in the day a line of thunderstorms developed in the Texas Panhandle and moved northeast into Oklahoma. The two distinct weather patterns, cold in the West and warm and humid in the East, moved slowly eastward on Thursday. Most of the severe weather and heavy rain occurred in eastern Kansas, central Oklahoma, and central Texas, just ahead of the advancing cool air although the area in eastern Nebraska and South Dakota north of the Low had its share of tornado sightings. Scattered spots in Kentucky, Ohio, West Virginia, and the Washington, D.C., area received hail and strong winds. The West had only light and widely scattered shower activity. The cooler air was separated from the warm and humid air on Friday by a front from Lake Huron to a Low in North Dakota and through western Iowa to west Texas. Severe weather, including hail, tornadoes and high winds, occurred in Texas and Minnesota. Thunderstorms were more widely scattered in Kansas, Missouri, and from Illinois and Wisconsin into the Middle Atlantic States. A line of instability extended from North Carolina into Virginia and triggered scattered thunderstorms in east Tennessee, Kentucky, and eastward. A tornado was spotted in North Carolina. Some rain and a few snow showers occurred in Idaho and western Montana and in the Dakotas. Another surge of cool air moved into the northern and central Rockies on Saturday triggering more cold rain, snow, and high winds. In the warm air, severe weather occurred from Texas and Louisiana northward to Illinois, Indiana, and Michigan. Some scattered showers and thunderstorms also occurred along the Atlantic Coast States from North Carolina to southern New England. Late in the day showers developed in southern Florida. On Sunday, precipitation was concentrated in eastern Kansas, northern Missouri, Iowa, and Minnesota and eastward into Ohio. Some light rain or showers fell along the mid-Atlantic coast. Severe weather was generally confined to the east-central Plains and southern Great Lakes area.

TEMPERATURE: It was a week of sharp contrasts in temperature with records of both highs and lows being set. In general, the same situation prevailed all week with cool air moving south into the Rockies and warm moist air moving north into the Plains and eastward from the Gulf of Mexico. On Monday, temperatures in the North Central States rose into the 90's breaking old records. Again on Wednesday, as snow piled up in Wyoming, record temperatures in the 90's were read in Michigan. On Thursday, a record low--the coldest so late in the spring--of 30 degrees was recorded at Winslow, Arizona, and 97 degrees produced a record high at Topeka, Kansas. On Friday, 90-degree readings broke records in Vermont and New Hampshire. A low of 22 degrees at Alamosa, Colorado, broke the old record of 25 degrees. Another surge of cool air on Saturday caused record low temperatures in Oregon and Idaho on Sunday morning. Late Sunday, a warming trend began on the west coast.

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